

West Nile Virus Newsletter

Zoonotic Disease Program, Washington State Department of Health

September 7, 2006

Volume 4, Issue 9

Purpose

To keep our partners and other interested entities informed about West Nile virus (WNV)

In This Issue

Idaho's Ada County spraying results are in

California's West Nile warning system

Journal articles from *Vector-Borne and Zoonotic Diseases*

Crows slow to bounce back from WNV

Guidance for states doing bird surveillance for WNV and/or H5N1

National, regional, and state surveillance update

Previous Issue

West Nile virus found in Yakima horse

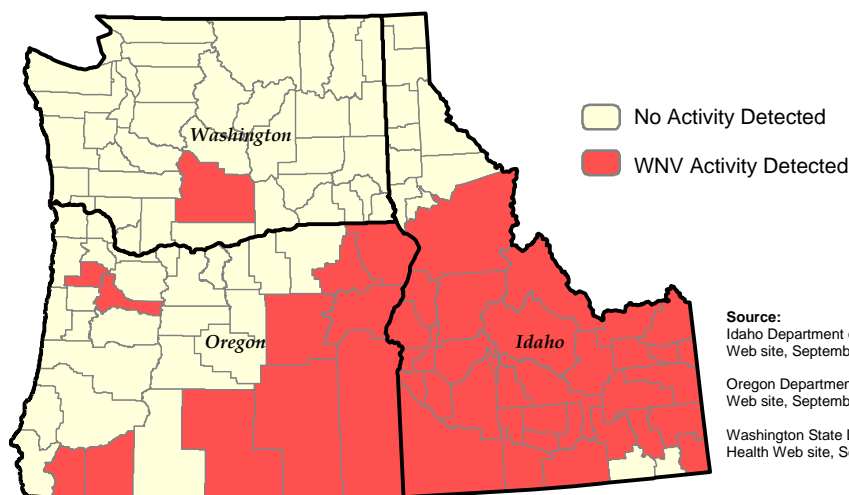
Idaho governor approves disaster declarations

Experts say spraying is safe in Idaho; Virus confirmed in squirrels

First WNV case in sage grouse in Oregon

View the [August 24, 2006](#) WNV Newsletter

West Nile virus activity in the northwest, 2006



WNV positive in the northwest

[Washington](#): 1 horse

[Idaho](#): 616 humans, 295 horses, 110 birds, mosquito pools detected in 6 counties

[Oregon](#): 38 humans, 19 horses, 11 birds, 4 mosquito pools

Idaho's Ada County spraying results are in

By Robbie Johnson, ktvb.com, August 30, 2006

BOISE – The latest mosquito trapping results are in, and Ada County officials say there is evidence that last week's pesticide spraying was a success.

Mosquitoes have been trapped in southeast Boise every week this season as part of mosquito surveillance. The most trapped was 34, with an average of 6.7 each week. After the spraying - just one was trapped Wednesday.



Ada County has 13 fixed mosquito trap locations. The traps are again, monitored on a weekly basis and help mosquito abatement workers better understand what is happening with the adult mosquito population. The number trapped at seven locations in areas that received both aerial pesticide applications last week were greatly reduced, when compared with the count taken prior to the spraying.

“We feel that's a very significant change, that was well within our expectations. We've got several of the tarp areas where there are either trapping no mosquitoes

Web Resources

Washington State
Department of Health
www.doh.wa.gov/wnv

Centers for Disease
Control and Prevention
www.cdc.gov/ncidod/dvbid/westnile

US Geological Survey
ArboNET maps
diseasemaps.usgs.gov

Washington State
University Cooperative
Extension
www.wnv.wsu.edu

Washington State
Department of
Agriculture
www.agr.wa.gov/FoodAnimal/AnimalHealth/Diseases/WestNileVirus/default.htm

Northwest Links

Idaho Department of
Health & Welfare
www.westnile.idaho.gov

Oregon Department of
Human Services
<http://egov.oregon.gov/DHS/ph/acd/diseases/wnile/survey.shtml>

British Columbia Center
for Disease Control
<http://www.bccdc.org/content.php?item=183>

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or one," said Brian Wilbur, Ada County Mosquito Abatement.

Another site that showed a reduction in insects is near Eagle Island. That trap had a high of 246 mosquitoes this summer, with an average of about 59 in the traps each week. At last check there were zero.

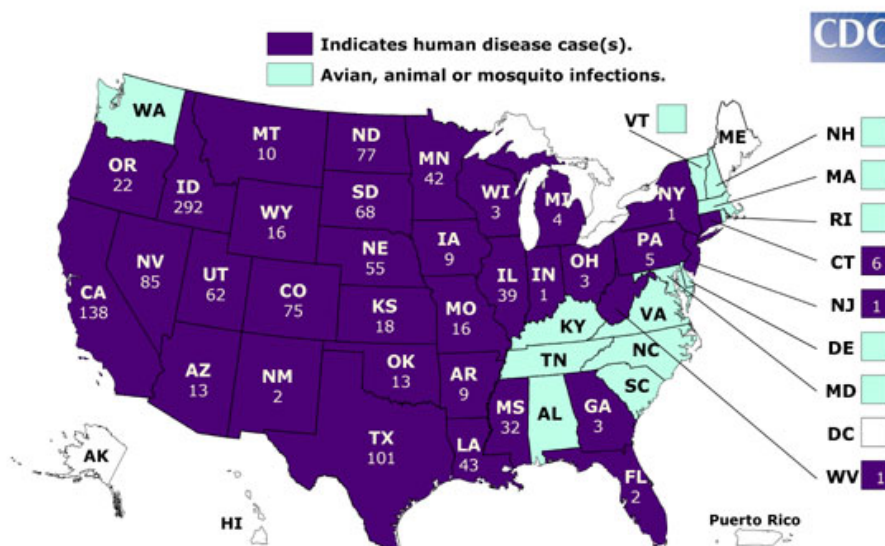
However, areas that were sprayed only once showed mixed results. One site near Meridian had a peak of 27 mosquitoes, and an average of 5.8. At last check 10 mosquitoes were trapped.

There was about 15,000 acres not sprayed last week because of windy conditions. However, there are ongoing efforts to kill mosquitoes to stop the spread of the West Nile virus.

Workers have already started to step up their ground fogging efforts.

West Nile virus activity in the United States, 2006

Surveillance findings reported to CDC, September 5, 2006



National maps and data available at
<http://www.cdc.gov/ncidod/dvbid/westnile/surv&control.htm>

Journal articles

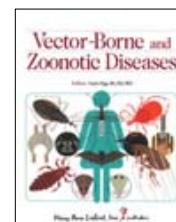
Vector-Borne and Zoonotic Diseases, Mary Anne Liebert Inc., Dec 2005, Vol. 5, No. 4 (free issue)

Eastern Cottontail Rabbits (*Sylvilagus floridanus*) Develop West Nile Virus Viremia Sufficient for Infecting Select Mosquito Species, S. Tiawsirisup et al.

<http://www.liebertonline.com/doi/abs/10.1089/vbz.2005.5.342>

West Nile Virus in Host-Seeking Mosquitoes within a Residential Neighborhood in Grand Forks, North Dakota, J. Bell et al.

<http://www.liebertonline.com/doi/abs/10.1089/vbz.2005.5.373>



National WNV Statistics for 2006

As of September 5th forty-seven states/districts have reported some type of West Nile virus activity.

Humans

Total human case-patients: **1267**

Patients with meningitis and/or encephalitis: **448**

Total human deaths: **36**

Presumptively viremic blood donors: **133**

Avian

Total dead bird cases reported positive: **2343**

Number of corvids reported positive: **1891**

States/districts reporting positive dead birds: **40**

Veterinary

Total number of veterinary cases (2 other species, remainder are equines): **486**

States/districts reporting positive veterinary cases: **27**

Mosquito Pools

Total number of positive mosquito pools: **6307**

States reporting positive mosquito pools: **37**

Most frequent mosquito pool species reported positive:

1. *Culex tarsalis*
2. *Culex pipiens-restuans* (mixed)
3. *Culex pipiens*

Sentinels

Total number of sentinel infections reported positive: **477**

States/districts reporting positive sentinels: **11**

California's West Nile warning system

By Sabin Russell, San Francisco Chronicle, September 8, 2006

California cases of West Nile are down by two-thirds this summer -- an improvement gained in part with the help of thousands of citizens who filed dead bird reports, which tell cities and counties where to direct their mosquito control programs.



The California Department of Health Services has recorded 140 human cases of the mosquito-borne disease this season, compared with 500 at this time last year. West Nile cases typically peak in August and taper off as the weather cools in the fall. A total of 935 state residents were sickened last year, and 19 died. This year the disease has claimed two lives in California.

"We believe that without intense mosquito control efforts, we'd be seeing much more West Nile virus activity," said Vicki Kramer, chief of vector-borne diseases for the California Department of Health Services.

Dead bird monitoring has become a critical tool in tracking the virus, which is lethal to dozens of avian species, particularly crows and jays. When birds are dying in big numbers, it's a good sign that mosquitoes infected with the virus are in the neighborhood and that human cases are likely to follow.

Citizen bird spotters, sending their reports via the Internet or through a toll-free hot line, are helping state epidemiologists pinpoint viral hot spots. California has logged more than 40,000 reports of dead birds this season. Those reports are fed into a computerized map that displays where the avian death rate is suspiciously high. These digital "risk maps" serve as an early-warning system for local mosquito control districts, which then decide whether and where to spray pesticides that can knock down infected mosquitoes.

The welcome drop in human West Nile virus cases in California is also likely part of the natural course of the 7-year-old epidemic. As the disease marched across the country from the East Coast, large outbreaks in newly affected regions tended to be followed by big decreases the succeeding year.

Scientists are trying to figure out why, but the answer probably lies in the health status of wild birds. West Nile is fundamentally a bird disease, which is transmitted among birds by mosquitoes. As West Nile first sweeps through a region, it is often carried by sparrows and finches, which can remain relatively healthy while infected, and by corvids -- jays and crows -- which die quickly. A year later, the crows and jays have died off, and the sparrows and finches have cleared the virus and developed immunity. As a result, the mosquitoes have fewer infected birds to feed on, and are less likely to pick up the virus and spread it to other birds, animals or people.

Southern California was hit hard by WNV in 2004, and last year Northern California was the national epicenter. Although numbers statewide are down this year, hot spots remain -- including Santa Clara and Contra Costa counties. Public health experts warn that the virus is just as dangerous today as it was when it first appeared in New York City in 1999.

Upcoming Event:

The 45th Annual Meeting of the Northwest Mosquito and Vector Control Association

Date: October 4-6, 2006

Location: Embarcadero Resort Hotel and Marina
- Newport, Oregon



Meeting information is available at <http://www.nwmvca.org/>.

NWMVCA serves the states of Alaska, Idaho, Montana, Oregon, and Washington; as well as the Canadian Provinces of Alberta, British Columbia and Saskatchewan.

NWMVCA is a nonprofit organization dedicated to the promotion of partnerships and close cooperation among those directly or indirectly involved with or interested in the science of biology, which includes the control of insects and other animals of public health importance.

Our objective is to enhance public health and quality of life, to increase awareness and promote education of our membership and other stakeholders to the importance of integrated vector management.

In fact, despite California's experience, the number of cases of West Nile virus nationwide is on the upswing. A late-season outbreak in the arid Snake River basin of Southern Idaho, and a resurgence of cases in Texas and Louisiana, are putting the United States on track for the third worst West Nile virus season ever, said Dr. Lyle Petersen, director of vector-borne diseases at the federal Centers for Disease Control and Prevention office in Fort Collins, Colo.

"Our ability to predict these outbreaks is no better than our being able to predict the weather months in advance," said Petersen, the nation's top West Nile virus expert.

Continue this article which discusses California's surveillance and control efforts at <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2006/09/08/BAGABL1ID51.DTL>.

Decimated by West Nile, crows slow to bounce back

By Gary Wisby, *Chicago Sun Times*, September 3, 2006

West Nile disease devastated crow populations in the Chicago area four years ago, but experts thought the big black birds would bounce back. They didn't, and the mosquito-borne malady continues to hammer the crows.

In Cook County, their numbers plummeted 35 percent over last year in the state's Spring Bird Survey. It was even worse in DuPage County -- 46 percent. "We thought it was a one-shot deal, but year after year, the crows are getting hit," said Doug Stotz of the Field Museum.

One of the many reasons is that the old avian aphorism "birds of a feather flock together" is truer for crows than most birds. Crows breed early, in March. Then they stop being territorial -- that is, solitary -- and become social. Crows also preen, picking lice off each other's feathers, and all of this close contact spreads the West Nile virus if any birds are infected. Where crows sleep also gets them in trouble. "Most birds roost in the same bush every night," said Mike Ward, who is studying the effects of West Nile on birds for the Illinois Natural History Survey. "But crows usually roost in places that are a kilometer apart from one day to the next." So although West Nile is "patchy," as Ward puts it, a flock of crows is likely to eventually spend the night in a spot that's full of skeeters.

Other birds don't carry the virus long enough to die from it, some for only a day. But crows typically are sick for five days, and "almost all of them die -- 99 percent," he said. The crow decline hasn't bottomed out even though there are fewer individuals to catch West Nile from. Common species such as cardinals, robins and house sparrows also get bitten, carry the virus and spread it to non-infected mosquitoes. "Crows get involved in the cycle," Ward said.

Some crows have developed antibodies, and if enough follow suit, the species could stage a comeback. "But it doesn't seem to be happening very quickly," Ward said.

Continue reading this article which discusses how the American crow made a come-back in Illinois from low population numbers in the 1970's and their intelligence at <http://www.suntimes.com/output/news/cst-nws-crows03.html>.

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Interim CDC guidance for states doing bird surveillance for WNV and/or hi-path H5N1 avian influenza virus

Surveillance of dead birds for WNV has proven useful for the early detection of WNV in the United States. In recent months, it has also proven useful for the early detection of highly pathogenic H5N1 avian influenza A (HPAI H5N1, hereafter referred to as H5N1 virus) in Europe. Given the potential for H5N1 to infect wild birds in North America in the future, the following interim guidance is offered to support the efforts of states conducting avian mortality surveillance:
http://www.cdc.gov/ncidod/dvbid/westnile/resources/Interimguidance_WNV_HP_AI_bird_surveillance_082206.pdf.

Washington environmental surveillance summary, 2006

Reported to DOH as of September 6, 2006

County	Veterinary*		Birds**		Sentinel Flocks***		Mosquito Pools****	
	Tested	Positive	Tested	Positive	Tested	Positive	Tested	Positive
Adams	0	0	1	0	0	0	0	0
Asotin	0	0	0	0	0	0	0	0
Benton	2	0	3	0	267	0	281	0
Chelan	0	0	5	0	0	0	0	0
Clallam	0	0	0	0	0	0	0	0
Clark	1	0	1	0	0	0	29	0
Columbia	0	0	1	0	0	0	0	0
Cowlitz	1	0	8	0	0	0	75	0
Douglas	0	0	0	0	0	0	0	0
Ferry	0	0	1	0	0	0	0	0
Franklin	1	0	2	0	0	0	88	0
Garfield	0	0	0	0	0	0	0	0
Grant	0	0	1	0	0	0	0	0
Grays Harbor	0	0	5	0	0	0	0	0
Island	0	0	14	0	0	0	0	0
Jefferson	0	0	6	0	0	0	0	0
King	0	0	42	0	0	0	1	0
Kitsap	0	0	0	0	0	0	0	0
Kittitas	0	0	1	0	0	0	0	0
Klickitat	0	0	2	0	0	0	0	0
Lewis	0	0	5	0	0	0	0	0
Lincoln	0	0	1	0	0	0	0	0
Mason	0	0	6	0	0	0	0	0
Okanogan	0	0	0	0	0	0	0	0
Pacific	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0
Pierce	0	0	50	0	0	0	25	0
San Juan	1	0	0	0	0	0	0	0
Skagit	0	0	5	0	0	0	0	0
Skamania	0	0	0	0	0	0	0	0
Snohomish	1	0	41	0	0	0	36	0
Spokane	3	0	9	0	0	0	0	0
Stevens	0	0	3	0	0	0	0	0
Thurston	0	0	13	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0	0	0
Walla Walla	1	0	4	0	0	0	1	0
Whatcom	1	0	11	0	0	0	0	0
Whitman	1	0	4	0	0	0	0	0
Yakima	2	1	7	0	56	0	349	0
Totals	18	1	252	0	323	0	885	0

*All veterinary specimens have been from horses, except 1 specimen from a squirrel (Cowlitz County). County information was not available for 3 horses that tested negative. WADDL Report: August 28, 2006.

**A total of 254 birds have been tested for West Nile virus; 2 specimens unsuitable for testing, 1 specimen was from out-of-state. WADDL Report: September 6, 2006.

*** Sentinel Chicken Sera tested by Benton MCD Report: September 6, 2006.

**** Pools tested by USACHPPM-West Report: September 6, 2006, Benton MCD Report: September 6, 2006, Franklin County MCD Report August 22, 2006, Clark County MCD August 17, 2006, Cowlitz County MCD August 25, 2006, and Columbia MCD August 22, 2006.

View the WNV Avian Mortality Report at

<http://www.doh.wa.gov/ehp/ts/Zoo/WNV/Newsletters/dbreport/dbreport.pdf>.